

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

### FOR FURTHER ACTION

See paragraph 2 below

International application No.  
PCT/US2004/016730

International filing date (day/month/year)  
27.05.2004

Priority date (day/month/year)

International Patent Classification (IPC) or both national classification and IPC  
B65G57/28, B65G65/23

Applicant  
FRAZIER INDUSTRIAL COMPANY

#### 1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

#### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

#### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
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**Box No. I Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - a sequence listing
    - table(s) related to the sequence listing
  - b. format of material:
    - in written format
    - in computer readable form
  - c. time of filing/furnishing:
    - contained in the international application as filed.
    - filed together with the international application in computer readable form.
    - furnished subsequently to this Authority for the purposes of search.
3.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. IV Lack of unity of invention**

1.  In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
  - paid additional fees.
  - paid additional fees under protest.
  - not paid additional fees.
2.  This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is:
  - complied with
  - not complied with for the following reasons:

**see separate sheet**
4. Consequently, this report has been established in respect of the following parts of the international application:
  - all parts.
  - the parts relating to claims Nos.

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or  
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes:	Claims	1-29
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-29
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-29
	No:	Claims	

2. Citations and explanations

**see separate sheet**

**Re Item IV**

**Lack of unity of invention**

1. This Authority considers that there are two inventions covered by the claims indicated as follows:

- I: Claims 1-10 directed to an empty pallet stacking unit
- II: Claims 11-29 directed to a pallet stacking/staging system and a stacked pallet staging unit

The reasons for which the two inventions are not so linked as to form a single general inventive concept, as required by Rule 13.1 PCT, are as follows:

The features of the two claimed inventions solve different technical problems by means of different special technical features.

The problem to be solved by the first invention is to provide an empty pallet stacking unit with a reduced tilting area from charging position to discharge position.

The problem to be solved by the second invention is to provide a system of stacking and accommodating pallets until requested by the user.

The first invention of claim 1 yields the special technical feature of a pallet hopper pivotally linked to a fixed support through a 4-bar linkage.

The second invention of claim 11 yields the special technical feature of a stacked pallet staging unit with a stacked pallet receiving end cooperatively coupled to the stacked pallet discharge end of the empty pallet stacking unit.

The features of the two inventions are different, hence there are no common or corresponding special technical features on which a technical relationship can be based, within the meaning of PCT Rule 13.2, between the first and second inventions. Therefore the application does not meet the requirements for unity of invention as defined by PCT Rule 13.1.

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

2.1 Reference is made to the following document:

D1: US 2003/059290 A1 (DE JONG LEEN-PIETER) 27 March 2003 (2003-03-27)

**Novelty**

2.2 The subject-matter of independent claims 1,11,26 is not new in the sense of Article 33(2) PCT.

**Independent Claim 1**

2.3 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses in page 2, paragraph 26 to page 3, paragraph 39, figures 1-8 (the references in parentheses applying to this document):

An empty pallet stacking unit having a pallet loading and stacking end and a stacked pallet discharge end, the pallet stacking unit comprising a pallet hopper (2) dimensioned to form and accommodate a stack of empty pallets (18) and reversibly moveable from a pallet loading and stacking position (Figures 1-3) to a stacked pallet discharging position (Figures 4-6), the pallet hopper (2) having a forward edge (9) oriented toward the pallet discharge end of the pallet stacking unit, the pallet hopper (2) being pivotally linked to a fixed support.

2.4 From this, the subject-matter of independent claim 1 differs in that:  
The pallet hopper is pivotally linked to the fixed support through a **4-bar** linkage.

2.5 The subject-matter of claim 1 is therefore novel (Article 33(2) PCT)  
The problem to be solved by the present invention may be regarded as:

How to make the area of turn of the pallet stacking unit between the stacking position and the discharging position smaller.

2.6 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

None of the available prior art documents discloses to a person skilled in the art this alternative way of providing a 4-bar linkage between the hopper and the fixed support thus making the area of turn of the pallet stacking unit smaller.

**Claims 11,26**

2.7 The document D1 is regarded as being the closest prior art to the subject-matter of claim 11, and discloses in page 2, paragraph 26 to page 3, paragraph 39, figures 1-8 (the references in parentheses applying to this document):

A pallet stacking and staging system comprising:  
an empty pallet stacking unit having a pallet loading and stacking end and a stacked pallet discharge end, the pallet stacking unit comprising a pallet hopper (2) dimensioned to form and accommodate a stack of empty pallets (18) and reversibly moveable from a pallet loading and stacking position (Figures 1-3) to a stacked pallet discharging position (Figures 4-6).

2.8 From this, the subject-matter of independent claim 1 differs in that:  
It also comprises a stacked pallet staging unit having a stacked pallet receiving end, a stacked pallet removal end and a staging bay there between dimensioned to receive and retain a stack of pallets, the stacked pallet receiving end of the stacked pallet staging unit being cooperatively coupled to the stacked pallet discharge end of the empty pallet stacking unit such that when the pallet hopper of the empty pallet stacking unit is in the pallet stack discharging position, the stacked pallets will be discharged from the hopper into the stacked pallet staging bay of the stacked pallet staging unit and be retained in the staging bay until their removal therefrom.

2.9 The subject-matter of claim 11 is therefore novel (Article 33(2) PCT)  
The problem to be solved by the present invention may be regarded as:

How to provide a system of stacking and accommodating pallets until requested by the user.

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2.10 The solution to this problem proposed in claim 11 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

None of the available prior art documents discloses to a person skilled in the art this alternative way of providing a stacked pallet staging unit cooperatively coupled to the stacked pallet discharge end of the empty pallet stacking unit such that when the pallet hopper of the empty pallet stacking unit is in the pallet stack discharging position, the stacked pallets will be discharged from the hopper into the stacked pallet staging bay of the stacked pallet staging unit and be retained in the staging bay until their removal therefrom.

2.11 Independent claim 26 is also novel and inventive in comparison with D1 and the available prior art as it contemplates the technical features of the stacked pallet staging unit necessary for accommodating and releasing the stacked pallet at will.

**Dependent Claims**

2.12 Dependent claims 2-10 and 12-29 are dependent on claims 1, 11 and 26 respectively and as such they also meet the requirements of PCT with respect to novelty and inventive step.